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BEFORE THE ARIZONA CORPORATION COMMISSION

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2006 DEC 26 P 1:46

AZ CORP COMMISSION
DOCUMENT CONTROL

IN THE MATTER OF THE APPLICATION OF
WATER UTILITY OF GREATER TONOPAH,
INC., AN ARIZONA CORPORATION, FOR AN
EXTENSION OF ITS EXISTING CERTIFICATE
OF CONVENIENCE AND NECESSITY.

Docket No. W-02450A-06-0626

**RESPONSE TO
INSUFFICIENCY LETTER**

Water Utility of Greater Tonopah, Inc. ("Tonopah") provides the attached response to the
Insufficiency Letter filed by Staff on October 26, 2006.

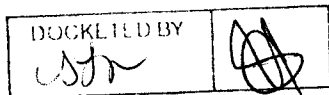
RESPECTFULLY SUBMITTED this 26th day of December 2006.

ROSHKA DEWULF & PATTEN, PLC

Arizona Corporation Commission

DOCKETED

DEC 26 2006



By

Timothy J. Sabo
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ROSHKA DEWULF & PATTEN, PLC
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1 Original + 13 copies of the foregoing
2 filed this 26th day of December 2006 with:

3 Docket Control
4 ARIZONA CORPORATION COMMISSION
5 1200 West Washington
6 Phoenix, Arizona 85007


7 Copies of the foregoing hand-delivered/mailed
8 this 26th day of December 2006, to:

9 Lyn A. Farmer, Esq.
10 Chief Administrative Law Judge
11 Hearing Division
12 Arizona Corporation Commission
13 1200 West Washington
14 Phoenix, Arizona 85007

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By 

WATER UTILITY OF GREATER TONOPAH, INC.'S
RESPONSE TO STAFF'S INSUFFICIENCY
LETTER DATED OCTOBER 26, 2006
December 22, 2006

1. According to the submitted Exhibit 9, some subdivisions listed in the Application are already within Tonopah's *existing* CC&N.
 - a). Please provide an accurate list of subdivisions within the proposed Extension Area. Coordinate this information in the following documents of the Application:
"The Extension Area" (page 2)

Exhibit 3
Exhibit 7
Exhibit 9
 - b). Specify acreage and number of lots separately for each subdivision within the proposed Extension Area at build- out.

RESPONSE:

- a. The subdivisions listed in the application on page 2 are accurate, however only Belmont and 339th Avenue are *entirely* included in the extension request, with portions of the other subdivisions already included in the existing WUGT CC&N.

Exhibit 3 has been revised (attached) to clarify those portions of the subdivision listed that are already in the existing CC&N.

Exhibit 7 has been revised (attached) as follows (first paragraph): "As seen in the attached exhibits, the extension areas include the Belmont and 339th Avenue developments, and a portion of Copperleaf, Desert Willow, Silver Water Ranch and Hassayampa Ranch (the balance is already in the existing CC&N), currently in development master planning with Maricopa County."

Exhibit 9 requires no change.

- b. A copy of the requested report prepared by Christine Close, P.E., of DSWA, LLC is attached, and includes this information, as follows:

WATER UTILITY OF GREATER TONOPAH, INC.'S
RESPONSE TO STAFF'S INSUFFICIENCY
LETTER DATED OCTOBER 26, 2006
December 22, 2006

Water Demand Projections

Development	Area of Existing CC&N (acres)	Area of Proposed CC&N (acres)	¹Dwelling Units at Buildout	Projected Water Demand, mgd
Belmont	-	19,893	80,048	38.42
Copperleaf	302	914	4,000	1.92
Silver Water Ranch	433	96	1,877	0.90
Silver Springs Ranch	2,229	-	8,200	3.94
339 th Avenue	-	1,273	2,127	1.02
Desert Whisper	474	474	2,900	1.39
Hassayampa Ranch	1,989	78	6,744	3.24
Totals	3,198	22,718	97,696	46.89

1. Dwelling units and acreages taken from development master plans prepared by others

RESPONDENT: Graham S. Symmonds, Senior VP, Operations and Compliance

WATER UTILITY OF GREATER TONOPAH, INC.'S
RESPONSE TO STAFF'S INSUFFICIENCY
LETTER DATED OCTOBER 26, 2006
December 22, 2006

2. The submitted request-for-service letter from Sierra Negra Ranches LLC does not include a request for Water Service.

RESPONSE: Please see the request-for-service letter from Sierra Negra Ranches LLC, attached.

RESPONDENT: Graham S. Symmonds, Senior VP, Operations and Compliance

WATER UTILITY OF GREATER TONOPAH, INC.'S
RESPONSE TO STAFF'S INSUFFICIENCY
LETTER DATED OCTOBER 26, 2006
December 22, 2006

3. How will the utility facilities be financed?

RESPONSE: The cost of facilities to serve the Extension Area will be financed through a combination of equity and advances in aid of construction. In accordance with Global Water's standard practices, advances-in-aid of construction will be used to fund distribution facilities within each section of land, while equity will be used to provide the backbone facilities to bring water to each section of land. Global Water has successfully used this same financing approach for the CC&N extensions approved for its utilities in Pinal County (Palo Verde Utility Company and Santa Cruz Water Company). The advances-in-aid-of-construction will be paid in accordance with Staff-approved main extension agreements. The equity will be provided by the shareholder of the Applicant.

RESPONDENT: Graham S. Symmonds, Senior VP, Operations and Compliance

WATER UTILITY OF GREATER TONOPAH, INC.'S
RESPONSE TO STAFF'S INSUFFICIENCY
LETTER DATED OCTOBER 26, 2006
December 22, 2006

4. The submitted Memorandum does not contain sufficient information which will enable the Commission Staff to perform its analysis and determine if the Company has developed or can be reasonably expected to develop adequate water production and storage capacity to serve the existing and proposed CC&N area. Projects of this proposed magnitude usually evolve from an overall water system evaluation in the form of a master plan and preliminary engineering design report, which outline existing and future population, water demand projections, water production and storage capacities and ,also, map the location of existing and future wells, storage reservoirs , booster stations and subdivisions.

Please provide a copy of such a Master Plan & Report.

RESPONSE: A copy of the requested report prepared by Christine Close, P.E., of DSWA, LLC is attached.

RESPONDENT: Graham S. Symmonds, Senior VP, Operations and Compliance

WATER UTILITY OF GREATER TONOPAH, INC.'S
RESPONSE TO STAFF'S INSUFFICIENCY
LETTER DATED OCTOBER 26, 2006
December 22, 2006

5.Submitted Exhibit 10 includes Water Use Data Sheets for eight existing systems.

Provide the following information:

- a). Indicate if and how the new system(s) will be interconnected with the existing systems.
- b). Provide Drinking Water Compliance Report for each existing water system from Maricopa Department of Environmental Services ("MCDES").
- c). Indicate the estimated number of customers to be served by each existing system in the existing and new area in each of the next five years. This information should be included in the Report referenced in item # 4 above.

RESPONSE:

- a. Because of the relative distance between the existing systems, and the fact that none are configured nor appear to have the space to accommodate higher capacity storage and pumping, interconnection at this time does not seem feasible nor warranted. The existing systems are deployed solely for the purpose of their existing customers; new developments such as Belmont, 339th Ave *et al* will be serviced from newly constructed infrastructure. The existing systems do appear to be suitable to provide construction water for the purpose of constructing infrastructure, and could be accessed readily and delivered to the construction sites by hauling water.
- b. Attached please find the latest Drinking Water Compliance Report for each water system presently included in WUGT from Maricopa County Environmental Services Department ("MCESD"). Of the seven systems in the WUGT, six of those systems are considered Community Water Systems for which MCESD monitors for compliance. Tufte PWS 07-617 is not considered a community water system at this time (population less than 25) and as such is not monitored by MCESD. Please note that the old Buckeye Ranch system 07-706 was merged with B & D 07-618.

There are two systems that currently are not reported as fully compliant:

1. B&D 07-618 is listed as non-compliant, minor for allegedly failing to monitor for nitrate. These lab samples (included for your information) were submitted for inclusion in the ADEQ database.
 2. WPE 6 07-733 is listed at substantial compliance. However, as shown in the supporting e-mails from MCESD, the expectation is that on completion of the compliance review, full compliance will be achieved.
- c. A copy of the requested report prepared by Christine Close, P.E., of DSWA, LLC is attached, and includes this information, as follows:

WATER UTILITY OF GREATER TONOPAH, INC.'S
 RESPONSE TO STAFF'S INSUFFICIENCY
 LETTER DATED OCTOBER 26, 2006
 December 22, 2006

Table 1. Existing and Proposed Customers

Development	Existing Customers	Year 1	Year 2	Year 3	Year 4	Year 5	Total End of Year 5
Buckeye Ranch System - PWS #07-618	94	20	20	20	20	20	194
Dixie System - PWS #07-030	27	3	3	3	3	3	42
WPE #6 - PWS #07-733	23	0	0	0	0	0	23
Tufte WPE #7 System - PWS #07-617	6	0	0	0	0	0	6
Garden City/Big Horn System - PWS #07-037	16	1	1	1	1	1	21
Rose View System - PWS #07-082	16	2	2	2	2	2	26
Sunshine System - PWS #07-071	121	38	38	38	38	38	311
Copperleaf	0	220	220	240	300	300	1,280
Silver Water Ranch	0	0	90	180	0	0	270
Belmont	0	1840	1840	2820	2820	2820	12,140
339th Avenue	0	220	175	240	300	300	1,235
Desert Whisper	0	120	75	120	180	180	675
Silver Springs Ranch	0	220	220	240	300	300	1,280
Hassayampa Ranch	0	220	220	240	300	300	1,280
Total	303	2,904	2,904	4,144	4,264	4,264	18,783

RESPONDENT: Graham S. Symmonds, Senior VP, Operations and Compliance

WATER UTILITY OF GREATER TONOPAH, INC.'S
RESPONSE TO STAFF'S INSUFFICIENCY
LETTER DATED OCTOBER 26, 2006
December 22, 2006

6. Indicate a CAP water allocation available for the requested area.

RESPONSE: WUGT currently has no CAP water allocation available for the requested area, but are actively positioning to purchase excess capacity as it becomes available in order to fulfill the desire to serve portions of this area in the long term with a more renewable water supply and thus the need to construct a surface water treatment facility. WUGT will continue to work closely with ADWR in permitting its assured water supplies.

RESPONDENT: Graham S. Symmonds, Senior VP, Operations and Compliance

WATER UTILITY OF GREATER TONOPAH, INC.'S
RESPONSE TO STAFF'S INSUFFICIENCY
LETTER DATED OCTOBER 26, 2006
December 22, 2006

7. Provide a copy of a Designation of Assured Water Supply from the Arizona Department of Water Resources which applies to the area at issue.

RESPONSE: WUGT is currently preparing the application document and can provide a copy for the docket when it is available, if required to do so. WUGT expects to submit its application in the second quarter of 2007.

RESPONDENT: Graham S. Symmonds, Senior VP, Operations and Compliance

WATER UTILITY OF GREATER TONOPAH, INC.'S
RESPONSE TO STAFF'S INSUFFICIENCY
LETTER DATED OCTOBER 26, 2006
December 22, 2006

8. Provide estimated starting and completion dates of construction of utility facilities for the extension area.

RESPONSE: A copy of the requested report prepared by Christine Close, P.E., of DSWA, LLC is attached, and includes this information.

RESPONDENT: Graham S. Symmonds, Senior VP, Operations and Compliance



MEMORANDUM

Date: September 5, 2006

Re: Water Utility of Greater Tonopah Service Area Extension
Water Service

This memorandum defines the service requirements of the extension of the **Water Utility of Greater Tonopah (WUGT)** Service Area CC&N for water. The WUGT currently has an approved service area of approximately 65 sections and serves 305 customers. Growth in WUGT's service area has been limited to date, but with the advent of the recent housing boom for planned communities, there are a number of large master planned developments that are in rather aggressive planning and permitting, that will impact our existing service area and have created the urgency to extend our service area. The extension service area includes approximately 22,127 acres (35 sections) with an estimated 88,264 additional dwelling units. As seen in the attached exhibits, the extension areas include the Belmont and 339th Avenue developments, and a portion of Copperleaf, Desert Willow, Silver Water Ranch and Hassayampa Ranch (the balance is already in the existing CC&N), currently in development master planning with Maricopa County. All of these developments have requested service from WUGT or its parent company, Global Water. Proposed water infrastructure is shown along with the location and relationship to the existing CC&N service area system. Hassayampa Utility Company (HUC), also owned by Global Water, currently has a CC&N for all of Hassayampa Ranch development and has filed an extension SW-20422-06-0566 to serve the remainder of the developments included in WUGT's extension, with the exception of Desert Willow which has not requested wastewater service from HUC.

Absorption Rates

For years 1 and 2, 200 dwelling units per month are anticipated, or 2,400 per year. For years 3-5, 300 dwelling units per month are anticipated, or 3,600 per year. Note that the buildout dwelling units are based on the master planning completed for the Belmont, Copperleaf, Silver Water Ranch, Desert Willow, Hassayampa Ranch and 339th Avenue developments.

Water Servicing Approach

At 2,400 dwelling units per year and 245 GPD/DU, it is expected that the Year 1 flow will be 0.59 MGD, 3.82 (approximately 4) MGD after 5 years, and 22 MGD at buildout. The WUGT currently has wells, necessary treatment, and distribution to its existing customers, and initially these facilities will be utilized in the overall water master planning to serve these new developments. New sources will be developed as required by the absorption rates. Additionally, WUGT will construct centralized groundwater distribution centers and treatment beginning in year one, as well as a CAP surface water treatment plant in Belmont in Year 4, to meet the needs of this extension area with active development.

The location and construction of wells, treatment and distribution centers are dependant on the rate and location of development. In addition to the existing wells located within and serving existing WUGT customers, other existing wells in the area will be evaluated to determine their suitability for use or rehabilitation for use. Where suitable existing wells do not exist, WUGT will work with registered hydrologists to identify locations for new wells as well as treatment that may be required to meet the State Drinking Water Standards. For the purposes of our cost estimation and based on water quality data available from the developers' planning documents, arsenic treatment has been assumed to be required for 70% of the groundwater developed into potable water.



Due to the proximity of the CAP Canal and the prudence of providing a renewable water supply in addition to groundwater, the first phase of a surface water treatment plant is projected to begin construction Year 4 and 5. At buildout the surface water plant will provide half the water production demand, 11 MGD.

A table of infrastructure to be added to serve the extension areas is included. The total, build-out estimated cost of this infrastructure is \$143 million. Please see the attached spreadsheets with the breakdown of costs for each of years one through five, as follows:

Year 1: \$3.9 M

Year 2: \$5.7 M

Year 3: \$10.3M

Year 4: \$11.1 M

Year 5: \$8.8 M

FACSIMILE COVER PAGE

To : Robin Bain

From :

Sent : 12/21/2006 at 3:46:42 PM

Pages : 2 (including Cover)

Subject : Sierra Negra Ranch LLC

SIERRA NEGRA RANCH LLC
SNR MANAGEMENT LLC

December 20, 2006

Ms. Cindy Liles
Senior Vice President & CFO
Global Water Resources, LLC
21410 North 19th Avenue, Suite 201
Phoenix, AZ 85027

Re: Water and Wastewater Services

Dear Ms. Liles:

Please accept this letter as a request for service from Sierra Negra Ranch for water and wastewater services to approximately 2,753 acres, more particularly described as Exhibit A attached hereto. It is our intention to continue to pursue the preliminary platting, rezoning and development of this planned area development to serve single family residential homes.

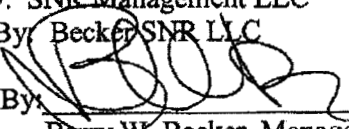
Sierra Negra Ranch would like to be included in your next available expansion of service areas for Water Utility of Greater Tonopah and Hassayampa Utility Company.

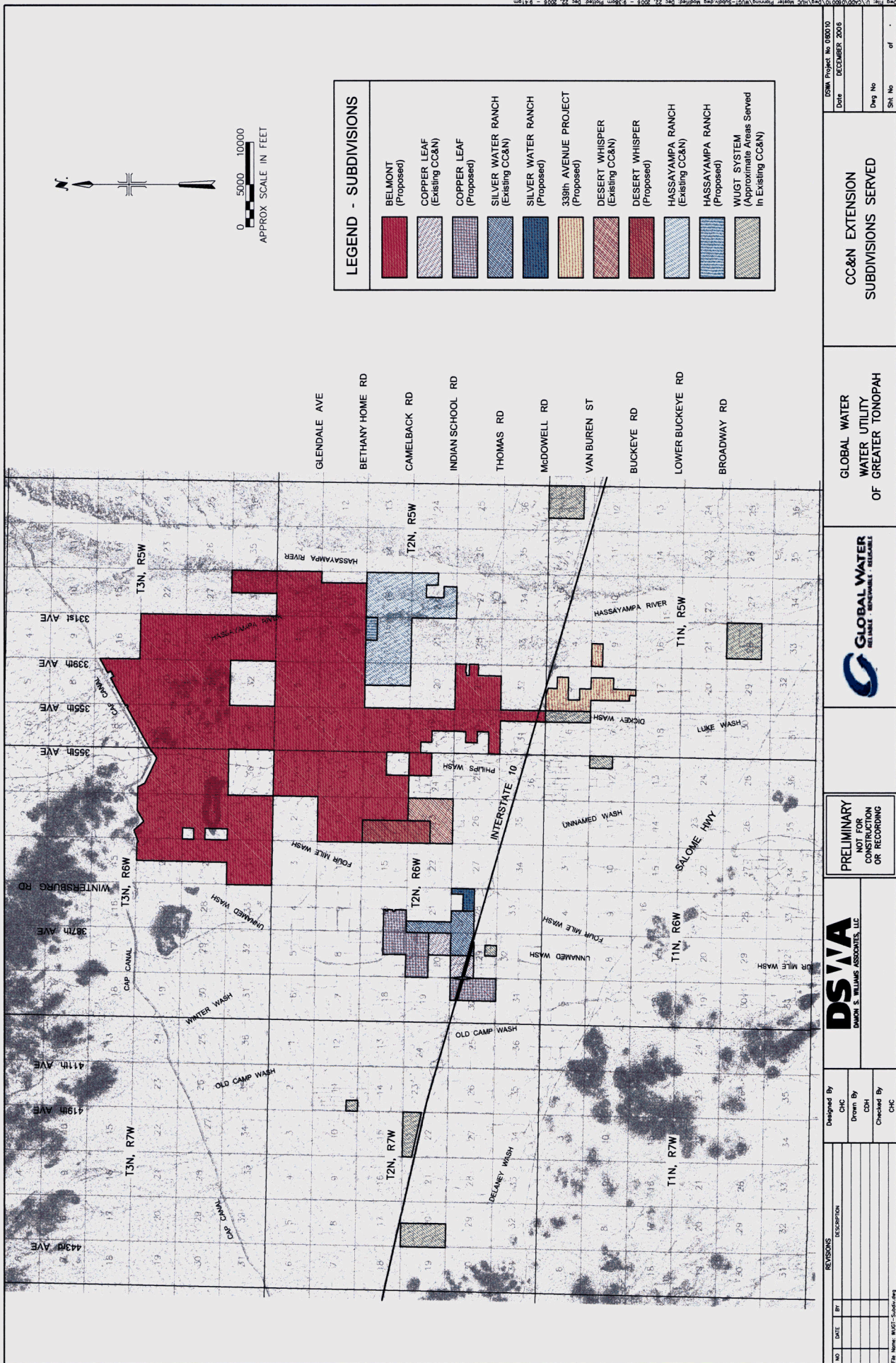
Yours truly,

Sierra Negra Ranch LLC

By: SNR Management LLC

By:  SNR LLC

By: 
Barry W. Becker, Manager



Draft
Water Utility of Greater Tonopah
Conceptual Water Master Plan
Phase 1

December 2006

Prepared for:
Global Water Resources, LLC
21410 North 19th Avenue, Suite 201
Phoenix, Arizona 85027
Phone (623) 580-9600
Fax: (623) 580-9659



DSWA





WATER UTILITY OF GREATER TONOPAH
CONCEPTUAL WATER MASTER PLAN
PHASE 1

Prepared for:

Global Water Resources, LLC
21410 North 19th Avenue, Suite 201
Phoenix, Arizona 85027
Phone (623) 580-9600

Prepared by:

Damon S. Williams Associates
2355 E. Camelback Road, Suite 700
Phoenix, Arizona 85016
Phone (602) 265-5400

December 2006

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1.0 INTRODUCTION

Global Water recently acquired the Water Utility of Greater Tonopah (WUGT) as a new subsidiary. The WUGT is the major water provider in this area of Maricopa County to the west of the Hassayampa River. As such, they are responsible for providing water services to the existing and proposed communities in this area. Global and WUGT recognize the need to provide a regional planning document that will aid them in implementing future capital improvement projects. The purpose of this document is to provide Phase 1 of a regional water plan for Global Water's (Global) existing and proposed service area in western Maricopa County, focusing on seven developments which are in relatively advanced stages of planning and have requested service from WUGT.

The WUGT is currently in the process of extending their Certificate of Convenience and Necessity (CC&N) to cover various subdivisions or portions thereof that are not included in their existing CC&N. This document is intended to be used for discussion purposes, but does not necessarily encompass the final version of the full-scale master planning effort.

2.0 BACKGROUND

The area to be regionally planned for the WUGT is located in western Maricopa County and in total comprises approximately one hundred and seventy five (175) square miles. The proposed service area is bounded by the Central Arizona Project canal on the north, 443rd Avenue on the west, Salome Highway on the south, and the Hassayampa River on the east. Exhibit 2.1 provides a vicinity map of the area. WUGT's current service area covers approximately 61 square miles, or close to 39,000 acres.

Global filed an application for an extension of Certificate of Convenience and Necessity (CC&N) with the Arizona Corporation Commission (ACC) for water (WUGT) Docket No. W-02450A-06-0626. The proposed extension area is approximately 22,000 acres and includes the Belmont and 339th Avenue developments, and a portion of Copperleaf, Desert Willow, Silver Water Ranch and Hassayampa Ranch (the balance is already in the existing CC&N), currently in development master planning with Maricopa County. All of these developments have requested service from WUGT or its parent company, Global Water. Currently, Global is responding to comments provided on October 26, 2006. This master plan will focus on serving the developments included in this CC&N extension area, as well as those portions already in the existing CC&N area, for an approximate total of 25,000 acres; thus this master plan is to be considered Phase 1. None of the developments have existing service as they are all in the planning stages and have not reached final plat.

Water for the region will be provided by groundwater and CAP water. Groundwater will be chlorinated prior to distribution and other treatment including blending for arsenic, fluoride or nitrate removal will be provided as well if required to meet drinking water quality standards. CAP water cannot be utilized until capacity is secured, which is not expected until 2010. Treatment technologies for the CAP water will consist of conventional sedimentation and filtration or membrane filtration. The water will be treated to drinking water quality as prescribed by the A.A.C.

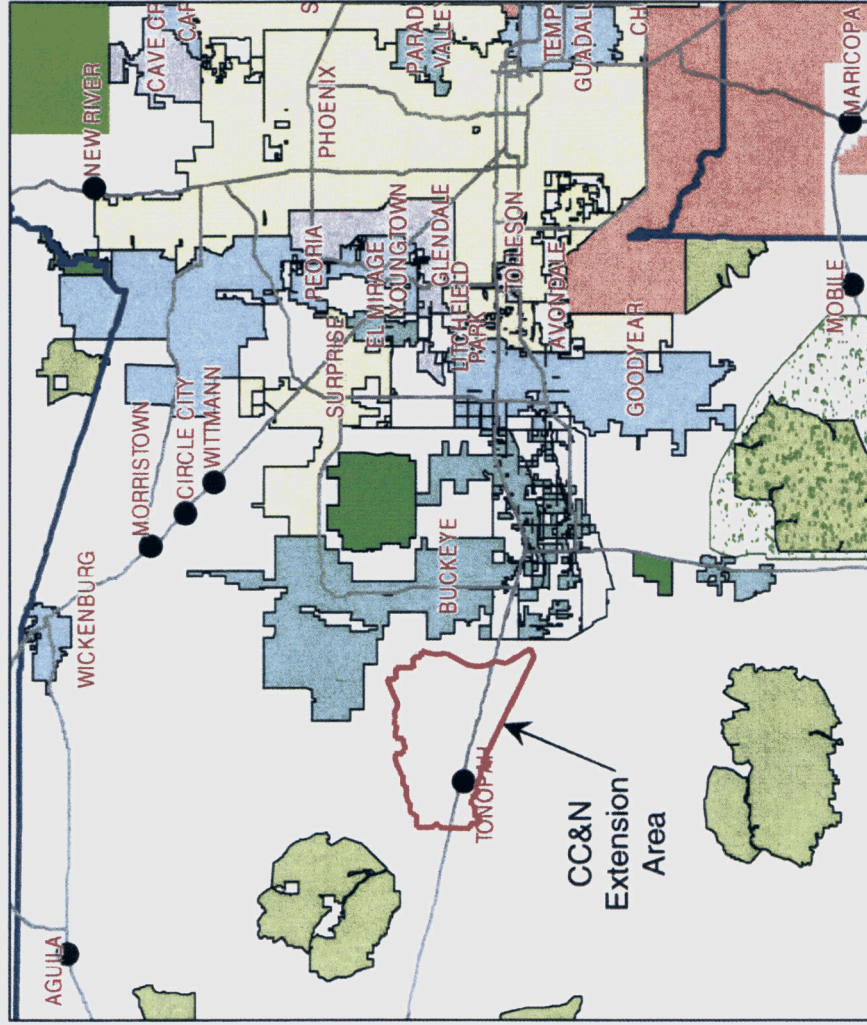


Exhibit 2.1 Vicinity Map

3.0 EXISTING CONDITIONS

The area to be regionally planned is located in western Maricopa County and in total, comprises approximately one hundred and seventy five (175) square miles. The proposed service area is bounded by the Central Arizona Project canal on the north, 443rd Avenue on the west, the WUGT boundary to the south, and the Hassayampa River on the east. WUGT's current service area covers approximately 61 square miles, or close to 39,000 acres.

3.1 Existing Water Systems

As indicated in Table 3.1, the existing water delivery system for Water Utility of Greater Tonopah (WUGT) serves approximately 300 customers. These customers are spread out over several miles. Exhibit 3.1 shows the approximate locations of the existing customers. Typically, these existing systems are characterized by small diameter pipelines and small wells. Of the seven systems within the WUGT, three of them provide fire hydrants on the system.

Table 3-1. Existing WUGT Water Systems and Customers

Water System	Existing Customers
Buckeye Ranch System - PWS #07-618	94
Dixie System - PWS #07-030	27
WPE #6 - PWS #07-733	23
Tufte WPE #7 System - PWS #07-617	6
Garden City/Big Horn System - PWS #07-037	16
Rose View System - PWS #07-082	16
Sunshine System - PWS #07-071	121
Total	303

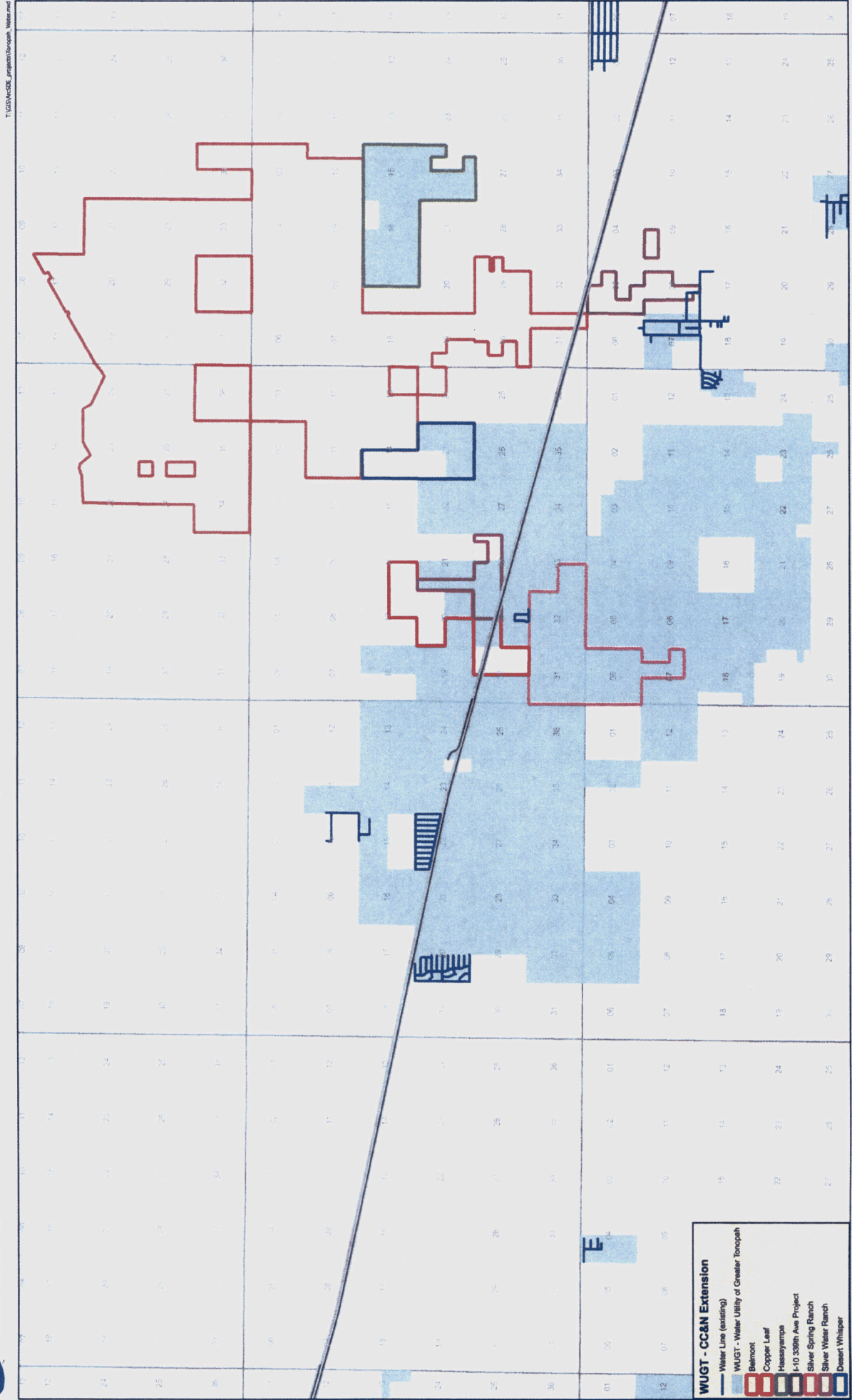
3.2 Geohydrology

The proposed service area is located in the western portion of the Phoenix Active Management Area and the Hassayampa Subbasin. The Hassayampa Subbasin comprises approximately 1,200 square miles. The basin is bounded to the north by the Vulture Mountains, to the east by the White Tank Mountains, to the south by the Gila Bend Mountains and Buckeye Hills, and west by the Palo Verde Hills, Belmont Mountains, and Big Horn Mountains. The Hassayampa Subbasin is drained by the Hassayampa River, which with the Gila River to the east.

Two cones of depression have developed in this subbasin due to extensive groundwater pumping for agricultural use. These depressions have created a decline in water levels of between 70 and 90 feet in the Tonopah Desert and Centennial Wash areas, respectively. The depth to water ranges from approximately 20 feet below land surface near the Gila River and to over 700 feet below land surface to the north portion of the subbasin.



WUGT Developments in CC&N Extension



ranges from approximately 20 feet below land surface near the Gila River and to over 700 feet below land surface to the north portion of the subbasin.

The Arizona Department of Water Resources (ADWR) Groundwater Site Inventory (GWSI) and Well Registry databases indicate that there are up to 357 wells located within the proposed service. GWSI indicates that the wells located within the proposed service are used for drinking water, irrigation, stock, and monitoring purposes.

The specific conductance across the proposed service, as reported by the ADWR, ranged from 400 to 4,650 microsiemens per centimeter (uS/cm) with the higher values recorded in the southeast where agricultural use is high. The calculated total dissolved solids (TDS) concentration ranged from 240 to 2,790 mg/L, respectively. The TDS concentration was calculated by multiplying the specific conductance by 0.6 to obtain milligrams per liter (mg/L) of dissolved solids. The fluoride and arsenic concentrations exceed Aquifer Water Quality Standards generally on the south side of proposed service area.

Presently, all water services for the proposed service area are provided by groundwater wells. Figure 3.2 provides a well location map showing existing wells throughout the proposed service area.

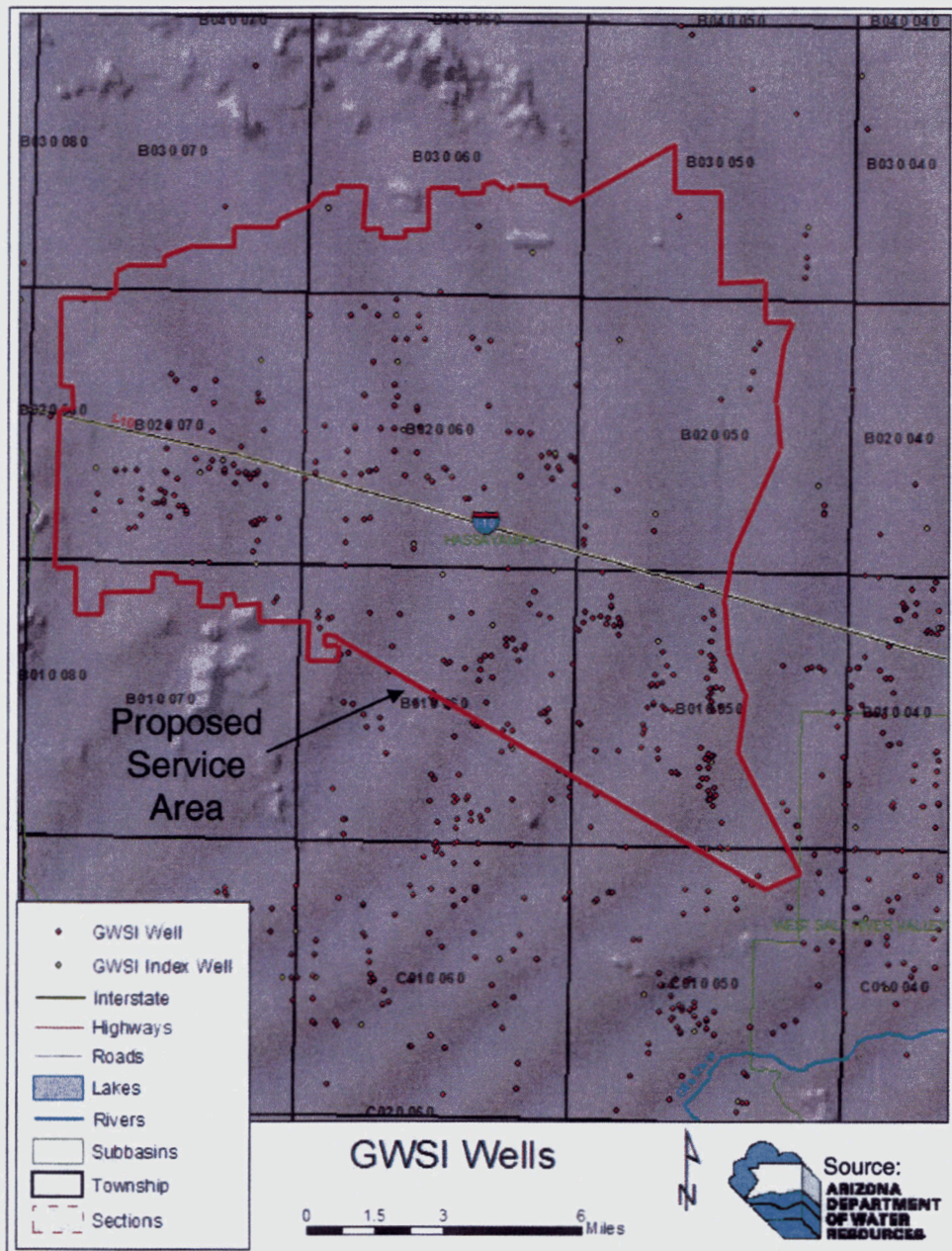


Exhibit 3.2 Well Location Map

4.0 PROPOSED IMPROVEMENTS

4.1 Water Demands

Table 4-1 shows the water demand projections developed for the seven proposed developments considered in this Phase 1 conceptual master plan.

Table 4-1. Water Demand Projections

Development	Area of Existing CC&N (acres)	Area of Proposed CC&N (acres)	¹ Dwelling Units at Buildout	Projected Water Demand, mgd
Belmont	-	19,893	80,048	38.42
Copperleaf	302	914	4,000	1.92
Silver Water Ranch	433	96	1,877	0.90
Silver Springs Ranch	2,229	-	8,200	3.94
339 th Avenue	-	1,273	2,127	1.02
Desert Whisper	474	474	2,900	1.39
Hassayampa Ranch	1,989	78	6,744	3.24
Totals	3,198	22,718	97,696	46.89

1. Dwelling units and acreages taken from development master plans prepared by others.

Water demands were developed based on the following criteria:

- 150 gallons per day per capita
- 3.2 persons per residential dwelling unit
- Initially, groundwater will supply all of the calculated demands

The projected water demand for the service area is 46.89 mgd. Global intends to meet the water initial demands through two water distribution centers and future treatment facilities for CAP water. One water distribution center will be located near 403rd Avenue and Camelback in the Balterra development and one will be located in the Belmont development near the pressure zone boundary along Camelback. This water distribution center will be a dual zone site thereby supplying water to two separate zones.

It is unlikely that the new water distribution system will be interconnected with the existing system due to the limited groundwater pumping capabilities at each of the existing well sites. WUGT will use the existing wells to provide future construction water needs. Table 4.2 shows

the proposed use of the existing water system for services to existing customers and limited future customers in the immediate vicinity of these systems in the next five years. In addition, the table shows the proposed addition of customers over the next five years for the proposed master planned developments in the area of the CC&N extension.

Table 4-2. Existing and Proposed Customers

Development	Existing Customers	Year 1	Year 2	Year 3	Year 4	Year 5	Total End of Year 5
Buckeye Ranch System - PWS #07-618	94	20	20	20	20	20	194
Dixie System - PWS #07-030	27	3	3	3	3	3	42
WPE #6 - PWS #07-733	23	0	0	0	0	0	23
Tufte WPE #7 System - PWS #07-617	6	0	0	0	0	0	6
Garden City/Big Horn System - PWS #07-037	16	1	1	1	1	1	21
Rose View System - PWS #07-082	16	2	2	2	2	2	26
Sunshine System - PWS #07-071	121	38	38	38	38	38	311
Copperleaf	0	220	220	240	300	300	1,280
Silver Water Ranch	0	0	90	180	0	0	270
Belmont	0	1840	1840	2820	2820	2820	12,140
339th Avenue	0	220	175	240	300	300	1,235
Desert Whisper	0	120	75	120	180	180	675
Silver Springs Ranch	0	220	220	240	300	300	1,280
Hassayampa Ranch	0	220	220	240	300	300	1,280
Total	303	2,904	2,904	4,144	4,264	4,264	18,783

The future CAP treatment plant will be located near 355th Avenue and the CAP. This plant should be operational by Year 2012.

4.2 Wells

GWSI indicates that there are several high production wells available that would be suitable for rehabilitation and outfitting as domestic supply wells. Groundwater production wells will be drilled near the water distribution centers. Raw water will be conveyed to the distribution centers for disinfection and treatment via raw water pipe networks. Specific well locations will be developed by hydrogeologists and will be sited and screened to maximize groundwater quality.

4.3 Water Storage/Booster Facilities

Two water distribution centers are required to serve the initial phases of the proposed developments. Exhibit 4.1 illustrates the location of the proposed water distribution centers. Typical water campus layouts will consist of two (2) reservoirs totaling 5.0 million gallons, booster pumping capable of 15,000 gpm, treatment facilities (if required), disinfection, standby generators, and a control building. Each water distribution center will be screened from view by earthen berms and CMU walls.

4.4 Pipelines

Several miles of pipelines are required to supply the proposed service area with water. Typically these pipelines will range in size from 24" transmission mains to 8" distribution lines. The conceptual location and preliminary sizes for the mains are shown in Exhibit 4.1.

4.5 Pressure Zones

The initial evaluation of the proposed service area indicates that four separate pressure zones can be implemented. As illustrated in Exhibit 4.2, the zones would be located between elevations; +/- 970 to 1,070, 1,070 to 1,170, 1,170 to 1,270, and 1,270 to 1,370 feet above mean sea level. Connections between pressure zones will be limited. Typically, a pressure reducing valve (PRV) station will include a low flow valve and a high flow valve to accommodate the varying flow conditions.

4.6 Water Quality

Global maintains the following strategies with respect to groundwater quality:

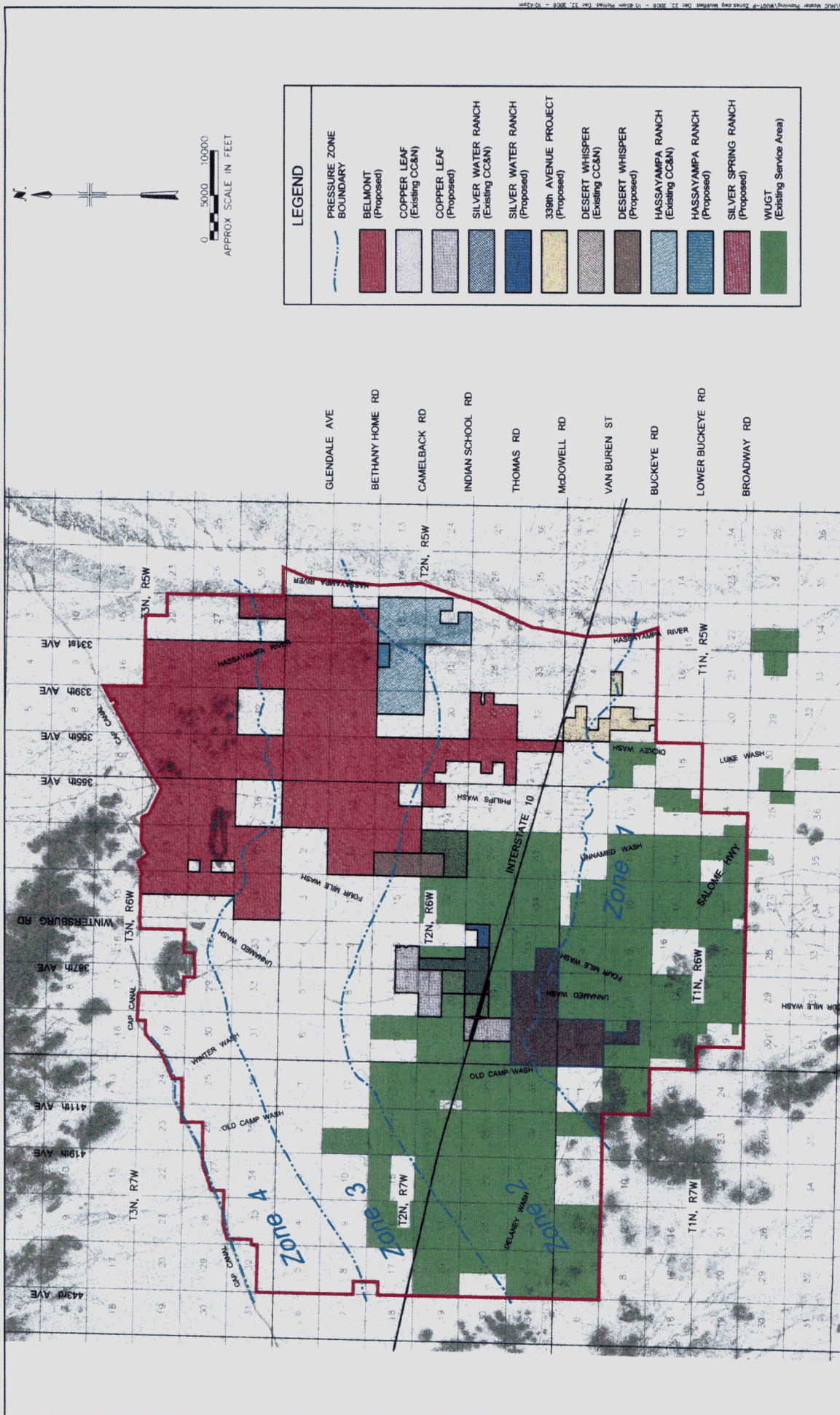
1. Identify and rehabilitate high quality wells in the proposed service area.
2. Develop blending mechanisms and control strategies to blend high quality water with poorer quality groundwater to ensure compliance with the Safe Drinking Water Act and AAC R18-4.
3. Modify existing wells to isolate areas of high concentrations or access higher quality water.
4. Provide slipstream treatment processes which in conjunction with an effective blending plan will meet the requirements.
5. Provide full scale treatment of groundwater.

A three phased approach to the evaluation of wells is employed by Global:

1. Phase 1 – Review available ADWR and ADEQ data, and physical assessment of wells;
2. Phase 2 – Analytical sampling of flow rates and quality (depth specific sampling, spinner logs);



				REVISIONS		 DS/A DANIEL S. WILLIAMS ASSOCIATES, LLC		 GLOBAL WATER RELIABLE • RESPONSIBLE • RESILIENT		GLOBAL WATER WATER UTILITY OF GREATER TONOPAH		CC&N EXTENSION WATER SYSTEM		USWB Project No. 060010 Date DECEMBER 2016 EXHIBIT 4.1			
ID	DATE	BY	DESCRIPTION														
				Designed By CHC		Drawn By CDW		Checked By CHC									
														8. Notes: B-107-B-Ang			

[illegible]

3. Phase 3 – Rehabilitation. Installation of sanitary seal, re-screening, renewal of electrical control system, installation of SCADA control system, and obtain New Source Approval.

During Phase 2 of the evaluation program, a full suite of analytical data is taken from the groundwater including:

- Metals
- Inorganics
- Synthetic Organic Compounds
- Volatile Organic Compounds
- Nutrients
- Bacteriological Analyses
- Radiochemical constituents

The results of these analyses will determine any groundwater treatment requirements. The selection of wells for potable water production will take into account the water quality data, so investment into the conversion is made prudently. Global is prepared to install, operate and maintain any treatment processes that may be required. Global is considering three (3) alternative type of treatment methods for removal of Arsenic and Flouride from the groundwater. These facilities will be located on the water distribution centers.

5.0 CONCLUSIONS

The master planned area will require new pipelines and water distribution centers to adequately serve the proposed developments with potable water. The maximum pressure in the system will be 80 psi. The minimum pressure in the system during peak hour conditions is 40 psi. As new development plans become available and as construction begins, this master plan should be updated and revised accordingly. Ultimately, a complete hydraulic model of the system will be created and maintained to accurately assess the distribution and delivery system.



Maricopa County
Environmental Services Department

PUBLIC WATER SYSTEM COMPLIANCE STATUS REPORT

System Name: WUGT - B & D Water Co.
PWS ID#: 07-618

Type of System: Community Number of EPDS's: 2 Surface Water: N/A
Number of Service Connections: 76 Population Served: 235

Assigned Monitoring Dates - Initial: 1/1/98 Phase II: 1/1/98 Phase V: 1/1/98

Does the water system have a Certified Operator? Yes

Does the system have major treatment plant deficiencies? N/A
Please describe: _____

Date of last Sanitary Survey: February 13, 2004

Does the system have major O & M deficiencies? No
Please describe: _____

Does the system have water quality monitoring/reporting deficiencies? Yes
Please describe: System has not performed nitrate monitoring for EPDS 002. Missed monitoring public notice is required.

Sent Lab results to AEE/MCE 4/12

General Public Water System Compliance Status? Non-compliant, minor

Date of compliance review: April 11, 2206 By: Doug Taylor R.S. Initials: DT
Phone: (602) 506-6631

Requested By: Joyce Goodwin, Paralegal Fax Number/ Contact: 602-256-6800 Tracking Number: 1120

Supervisor Initials: [Signature] Date: 4/12/06



Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY DRINKING WATER INORGANIC CHEMICAL ANALYSIS REPORT

*** SAMPLES TO BE TAKEN AT POE ONLY ***

07-618
System ID
10/05/05 11:20 (24 hr clock)
Sample date Sample time
(623) 386-6638
Owner/Contact Fax Number

SAMPLE TYPE
☒ Compliance Monitoring

SAMPLE COLLECTION POINT/ID

☒ Point of Entry# 002

POE 002 B & D

SAMPLING SITE ID

B & D
System Name
Jack Meister
Owner/Contact Person Name
(623) 386-4252
Owner/Contact Person Phone Number

FOR MCL EXCEEDANCE OR COMPOSITE TRIGGER

Original Violating Specimen Number

SAMPLE TYPE

☐ CONFIRMATION

☐ CONFIRMATION FOR COMPOSITE TRIGGER

*** INORGANIC CHEMICAL ANALYSIS ***

> > > TO BE FILLED OUT BY THE LABORATORY PERSONNEL < < <

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analysis Run Date	Result	Exceeds MCL	Exceeds Reporting Limit
E300	10	5	Nitrate (as N)	1040	10/06/2005	2	<input type="checkbox"/>	<input type="checkbox"/>

Note: The value in the results column only displays to the last significant integer, absent of any trailing zeros.

> > > > > LABORATORY INFORMATION < < < < <

To be filled out by laboratory personnel

SPECIMEN NUMBER

05100714-09

Lab ID Number AZ0610 Name: Aerotech Environmental

Comments:

Authorized Signature: *[Signature]*

Date Public Water System Notified:

Unregulated Contaminants

all units must be reported in milligrams per liter (mg/L)

DWAR 2IN: Revised 2003

Page 8 of 11

Water Utility of Greater Tonopah

201 E. Coronado St.
Buckeye, AZ 85326
(623)386-4252

April 12, 2006

ADEQ
1110 West Washington St
Phoenix, AZ 85007
Attention: Water Quality Compliance Section

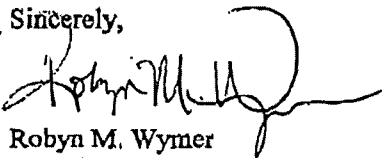
RE: PWS# 07-618

Dear Sir:

Enclosed you will find lab results for 2005 Nitrate samples for PWS # 07-618.

If you have any questions, please contact my office.

Sincerely,



Robyn M. Wymer
Compliance
robyn@wmcwater.com

Water Utility of Greater Tonopah

201 E. Coronado St.
Buckeye, AZ 85326
(623)386-4252

April 12, 2006

MCES
1001 N Central Ave
Phoenix, AZ 85326
Attention: Doug Taylor

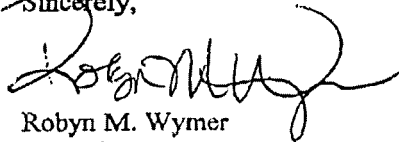
RE: PWS# 07-618

Dear Sir:

Enclosed you will find lab results for 2005 Nitrate samples for PWS # 07-618.

If you have any questions, please contact my office.

Sincerely,



Robyn M. Wymer
Compliance
robyn@wmcwater.com



Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY DRINKING WATER INORGANIC CHEMICAL ANALYSIS REPORT

*** SAMPLES TO BE TAKEN AT POE ONLY ***

System ID 07-618
 Sample date 10/05/05 Sample time 11:10 (24 hr clock)
 (623) 386-6638
 Owner/Contact Fax Number
 SAMPLE TYPE
☒ Compliance Monitoring
 SAMPLE COLLECTION POINT/ID
☒ Point of Entry# 002
 POE 001 Buckeye Ranch
 SAMPLING SITE ID

B & D
 System Name
Jack Meister
 Owner/Contact Person Name
(623) 386-4252
 Owner/Contact Person Phone Number

FOR MCL EXCEEDANCE OR COMPOSITE TRIGGER

Original Violating Specimen Number

SAMPLE TYPE

☐ CONFIRMATION

☐ CONFIRMATION FOR COMPOSITE TRIGGER

*** INORGANIC CHEMICAL ANALYSIS ***

> > > TO BE FILLED OUT BY THE LABORATORY PERSONNEL < < <

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analysis Run Date	Result	Exceeds MCL	Exceeds Reporting Limit
E300	10	5	Nitrate (as N)	1040	10/06/2005	2.1	<input type="checkbox"/>	<input type="checkbox"/>

Note: The value in the results column only displays to the last significant integer, absent of any trailing zeros.

> > > > LABORATORY INFORMATION < < < <

To be filled out by laboratory personnel

SPECIMEN NUMBER

05100714-04

Lab ID Number AZ0610 Name: Aerotech Environmental

Comments:

Authorized Signature: [Signature]

Date Public Water System Notified:

Unregulated Contaminants

All units must be reported in milligrams per liter (mg/L)

DWAR 2IN; Revised 2003

Page 3 of 11

Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotechlabs.com

Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com



Maricopa County
Environmental Services Department

PUBLIC WATER SYSTEM COMPLIANCE STATUS REPORT

System Name: WUGT - Sunshine Water Co.
PWS ID#: 07-071

Type of System: Community Number of POE's: 1 Surface Water: N/A
Number of Service Connections: 81 Population Served: 251

Assigned Monitoring Dates - Initial: 1/1/94 Phase II: 1/1/94 Phase V: 1/1/97

Does the water system have a Certified Operator? Yes

Does the system have major treatment plant deficiencies? No
Please describe: _____

Date of last Sanitary Survey: November 15, 2005

Does the system have major O & M deficiencies? No
Please describe: System has entered into a consent agreement to correct violations.

Does the system have water quality monitoring/reporting deficiencies? No
Please describe: system has not submitted disinfection byproduct monitoring results.
System has entered into a consent agreement to correct monitoring violation and must
continue to meet requirements of consent agreement to remain in compliance.

General Public Water System Compliance Status? Compliant

Date of compliance review: April 7, 2006 By: Doug Taylor R.S. Initials: DT
Phone: (602) 506-6631

Requested By: Joyce Goodwin, Paralegal Fax Number/ Contact: 602-256-6800 Tracking Number: 1118

Supervisor Initials: [Signature] Date: 4/8/06



Maricopa County
Environmental Services Department

PUBLIC WATER SYSTEM COMPLIANCE STATUS REPORT

System Name: WUGT - Rose View Water Company
PWS ID#: 07-082

Type of System: Community **Number of POE's:** 1 **Surface Water:** N/A
Number of Service Connections: 20 **Population Served:** 50

Assigned Monitoring Dates - Initial: 1/1/02 **Phase II:** 1/1/02 **Phase V:** 1/1/02

Does the water system have a Certified Operator? Yes

Does the system have major treatment plant deficiencies? N/A
Please describe: _____

Date of last Sanitary Survey: November 15, 2005

Does the system have major O & M deficiencies? No
Please describe: _____

Does the system have water quality monitoring/reporting deficiencies? No
Please describe: _____

General Public Water System Compliance Status? Compliant

Date of compliance review: April 7, 2006 **By:** Doug Taylor R.S. **Initials:** DT
Phone: (602) 506-6631

Requested By: Joyce Goodwin, Paralegal **Fax Number/ Contact:** 602-256-6800 **Tracking Number:** 1117
Supervisor Initials: [Signature] **Date:** 4/12/06

Drinking Water Program
John Kolman, Manager
1001 N. Central Ave., Suite 150 Phoenix, Arizona 85004-1940 **Phone:** (602) 506-6666 **Fax:** (602) 506-6925



Maricopa County
Environmental Services Department

PUBLIC WATER SYSTEM COMPLIANCE STATUS REPORT

System Name: WUGT - Garden City Water Co.
PWS ID#: 07-037

Type of System: Community Number of POE's: 1 Surface Water: N/A
Number of Service Connections: 15 Population Served: 50

Assigned Monitoring Dates - Initial: 1/1/98 Phase II: 1/1/98 Phase V: 1/1/98

Does the water system have a Certified Operator? Yes

Does the system have major treatment plant deficiencies? N/A
Please describe: _____

Date of last Sanitary Survey: November 15, 2005

Does the system have major O & M deficiencies? No
Please describe: _____

Does the system have water quality monitoring/reporting deficiencies? No
Please describe: _____

General Public Water System Compliance Status? Compliant

Date of compliance review: April 7, 2007 By: Doug Taylor R.S. Initials: DT
Phone: (602) 506-6631

Requested By: Joyce Goodwin, Paralegal Fax Number/ Contact: 602-256-6800 Tracking Number: 1119

Supervisor Initials: _____ Date: _____



Maricopa County
Environmental Services Department

PUBLIC WATER SYSTEM COMPLIANCE STATUS REPORT

System Name: WUGT - WPE #6 (West Phoenix Estates #6)
PWS ID#: 07-733

Type of System: Community Number of EPDS's: 1 Surface Water: N/A
Number of Service Connections: 23 Population Served: 71

Assigned Monitoring Dates - Initial: 1/1/02 Phase II: 1/1/02 Phase V: 1/1/02

Does the water system have a Certified Operator? Yes

Does the system have major treatment plant deficiencies? No
Please describe: _____

Date of last Sanitary Survey: August 19, 2005

Does the system have major O & M deficiencies? No
Please describe: _____

Does the system have water quality monitoring/reporting deficiencies? Yes
Please describe: System operating status has been changed to substantial compliance. However, this status is contingent upon successful completion of the initial lead and copper monitoring as discussed between system representatives and Mr. Taylor on April 24, 2006.

General Public Water System Compliance Status? Substantial Compliance

Date of compliance review: May 9, 2006 By: Doug Taylor R.S. Initials: _____
Phone: (602) 506-6631

Requested By: Dorothy Hains Fax Number/ Contact: 602-542-0766 Tracking Number: _____
Supervisor Initials: _____ Date: _____

Drinking Water Program
John Kolman, Manager
1001 N. Central Ave., Suite 150 Phoenix, Arizona 85004-1940

Phone: (602) 506-6666 Fax: (602) 506-6925

Susan Armijo

From: Jenny Young - ENVX [JYoung@mail.maricopa.gov]
Sent: Friday, September 01, 2006 7:26 AM
To: Robyn Wymer; Susan Armijo
Subject: WPE #6, 07-733

I have verified that the lead and copper monitoring requirement listed on the previous compliance review dated 5/9/06 has been completed by the water system. We are currently performing a new compliance review but it is not complete. I don't know of any other deficiencies for this water system. If you have any questions, please contact me. I will send a separate email regarding the Dixie water system.

Genevieve Young
Lead Environmental Specialist
Maricopa County
Environmental Services Department
Drinking Water Program
(602) 506-0462
(602) 372-0866 (Fax - Note new number.)
jyoung@mail.maricopa.gov

9/1/2006

Susan Armijo

From: Jenny Young - ENVX [JYoung@mail.maricopa.gov]
Sent: Friday, September 01, 2006 7:26 AM
To: Robyn Wymer; Susan Armijo
Subject: WPE #6, 07-733

I have verified that the lead and copper monitoring requirement listed on the previous compliance review dated 5/9/06 has been completed by the water system. We are currently performing a new compliance review but it is not complete. I don't know of any other deficiencies for this water system. If you have any questions, please contact me. I will send a separate email regarding the Dixie water system.

Genevieve Young
Lead Environmental Specialist
Maricopa County
Environmental Services Department
Drinking Water Program
(602) 506-0462
(602) 372-0866 (Fax - Note new number.)
jyoung@mail.maricopa.gov

9/1/2006



Maricopa County
Environmental Services Department

PUBLIC WATER SYSTEM COMPLIANCE STATUS REPORT

System Name: Dixie Water Company

PWS ID#: 07-030

Type of System: Community Number of POE's: 1 Surface Water: n/a

Number of Service Connections: 26 Population Served: 81

Assigned Monitoring Dates - Initial: 1/1/99 Phase II: 1/1/99 Phase V: 1/1/99

Does the water system have a Certified Operator? Yes

Does the system have major treatment plant deficiencies? n/a

Please describe: _____

Date of last inspection: February 13, 2004

Does the system have major O & M deficiencies? No

Please describe: _____

Does the system have water quality monitoring/reporting deficiencies? No

Please describe: System has performed public notice for total coliform MCL in November 2005 and for missed monitoring. Other corrective action also completed.

General Public Water System Compliance Status? Compliant

Date of compliance review: 09/11/2006 By: Genevieve Young Initials: GY

Phone: (602) 506-0462

Requested By: Robyn Wymer Fax Number/ Contact: _____ Tracking Number: 1184

Drinking Water Program

John Kolman, Manager

1001 N. Central Ave., Suite 150 Phoenix, Arizona 85004-1940 Phone: (602) 506-6666 Fax: (602) 506-6925